

Pronotum nearly as long as the mesonotum, a little narrowed anteriorly, indistinctly and very finely transversely striated; the remainder of the thorax very finely granulate. Median segment longer than the mesonotum, narrowed posteriorly, the dorsal surface rather irregularly obliquely striated, with a carina from base to apex; the surface of the posterior truncation transversely striated, with a median sulcus. Abdomen microscopically punctured. The striae on the dorsal surface of the median segment are rather indistinct, the surface between them being more or less rugose.

Hab. Bulawayo, Rhodesia (*G. Arnold*), June.

Allied to *M. pseudonotogonia*, Brauns, but differs considerably in sculpture.

XXXIII.—*Descriptions and Records of Bees.*—LXXVII.

By T. D. A. COCKERELL, University of Colorado.

Epeolus bifasciatus obscuripes, subsp. n.

♂.—Length about 6 mm.

Greater part of scape blackish; antero-lateral corners of mesothorax entirely black; legs dark brown, tarsi paler and redder; band on first abdominal segment interrupted.

Medellin, Vera Cruz, Mexico (*H. H. Hyde*; Baker coll. 1785). U.S. Nat. Museum.

E. fumipennis, Say, is not identical with *E. bifasciatus*, Cresson, or even closely related.

Epeolus xanthurus, sp. n.

♂.—Length about 8 mm., anterior wing 7, with the aspect of an Odynerid wasp.

Black, with the mandibles (except basally), tubercles, tegulae, anterior tibiae in front, and all the tarsi ferruginous; eyes yellowish brown; inner orbits strongly converging below; antennae black, apical part of third joint red; face covered with appressed pale ochreous-tinted hair; thorax above with pale ochreous hair, the mesothorax thinly hairy all over, but with a large H rather obscurely indicated by denser hair; axillar teeth very short; postscutellum with middle third dark fuscous, lateral thirds cream-coloured,

these effects due to short dense pubescence; mesopleura shining and strongly punctured, but the upper part covered with dense brownish hair. Wings reddish hyaline, with a large suffused brownish cloud beyond marginal cell; stigma and nervures ferruginous; spurs light ferruginous. Abdomen short; basal segment with a large semilunar area of ochreous tomentum, but no apical band; second and following segments with very broad apical bands of clear reddish-fulvous tomentum, making the whole apical region appear yellow; apical part of venter similarly coloured.

Ecuador (Baker collection). U.S. Nat. Museum.

Closely allied to *E. cameroni*, Meade-Waldo, but distinguished by the pattern of the mesothorax, entirely clear red tegulæ, red tubercles, and distinct cloud at apex of wing. My specimen of *cameroni* (determined by Meade-Waldo) is from Temax, Yucatan (*Gaumer*).

Epeolus rugulosus, sp. n.

♂.—Length about 10.5 mm.; anterior wing 7.5.

Black, including mandibles and tubercles, but third antennal joint bright ferruginous; eyes pale ochreous, brighter above; face rather broad; clypeus minutely and densely rugoso-punctate, not densely hairy; sides of face and region of antennæ covered with ochreous hair, which is limited by a straight line from orbit to orbit just above antennæ; upper border of prothorax with a broad band of dense bright ochreous hair, tubercles with paler hair; mesothorax densely punctured, with no discal ornaments, but an ochreous band of hair along sides and hind margin; axillar spines moderate, but sharp; scutellum with a median groove; postscutellum with thin pale hair right across; scutellum with a broad band of ochreous hair posteriorly; mesopleura with a transverse semilunar patch of pale hair above, but the greater part shining and strongly punctured; tegulæ clear ferruginous. Wings hyaline, orange-tinted, dusky apically; stigma and nervures ferruginous. Legs black, with pale hair, spurs black. Abdomen elongate, the first two segments with a peculiar sculpture consisting of longitudinal rugæ crossed by very fine lines; remaining segments brownish from a very delicate tomentum; first segment with a very large oblique ochreous hair-patch on each side, the two patches almost meeting in middle; no apical band on first segment, but second to sixth with broad bright ochreous entire hair-bands, becoming white at

extreme sides ; band on second with no exterior lobes ; ventral hair-tufts ochreous.

Comacho, Canal Zone, Panama, March 27 (*A. H. Jennings*). U.S. Nat. Museum.

An isolated species, somewhat related to *E. xanthurus*, but easily known by the sculpture of the abdomen and other characters. The wings are unusually short.

Triepeolus cuneatus, sp. n.

♂.—Length about 11 mm.

Similar to *T. helianthi*, Rob. Black, the markings pale ochreous ; apical half of mandibles dark reddish ; eyes light green ; face densely covered with ochreous-tinted silvery hair ; antennæ entirely black ; mesothorax rugoso-punctate, the margins with a band of ochreous hair, while anteriorly are two large cuneate marks pointed caudad, leaving the black area approximately anchor-shaped ; axillary spines rather short, pointed ; mesopleura almost entirely covered with hair ; tegulæ black, the outer posterior region pallid. Wings dusky hyaline, stigma very small ; nervures fuscous, basally ferruginous. Middle and hind femora and tibiæ, and all the tarsi bright ferruginous ; spurs black ; first abdominal segment with a transverse black band, obliquely truncate at each end, connected in middle with a black triangular area on hind margin ; black area on second segment also obliquely truncate at sides ; apical band on second segment notched in middle, but those on third to fifth broad and quite entire ; sixth segment dark seal-brown ; seventh with a short band of ochreous hair on each side ; apical plate with a bright ferruginous semilunar spot ; ventral brushes pale reddish.

Meadow Valley, Mexico (*C. H. T. Townsend*). U.S. Nat. Museum.

Known from *T. helianthi* by the cuneate marks on thorax, the shorter black band on first abdominal segment, broader apical band on second, &c.

Triepeolus concinnus, sp. n.

♀.—Length about 11 mm.

Black, with pale ochreous markings ; mandibles very dark reddish apically ; eyes pale green ; clypeus minutely rugoso-punctate, with scattered large punctures ; ochreous hair in region of antennæ ; antennæ entirely black ; mesothorax with ochreous band at sides and behind, but not in

front ; two broad stripes, not very long, on anterior part of mesothorax, these completely isolated from the ochreous band ; axillar teeth short ; mesopleura with dense ochreous hair along anterior margin, and a broad band running across the middle, below this is a large quadrate black area ; tegulæ black, the margin brownish. Wings dusky hyaline, nervures fuscous. Legs coloured as in *T. cuneatus*. Abdomen marked as in *T. cuneatus*, but apical band on first segment rather widely interrupted, and that on second sometimes interrupted ; segments 3 and 4 with entire bands ; fifth with a large ochreous patch on each side of the modified area ; last ventral segment straight in profile.

Meadow Valley, Mexico (*C. H. T. Townsend*). U.S. Nat. Museum.

Close to *T. cuneatus*, but on account of the different ornamentation of mesothorax it must be considered distinct. The eyes are yellow-green, not bluish green as in typical *helianthi*. In *helianthi* the black lower part of pleura is not enclosed by ochreous.

Triepeolus medusa, sp. n.

♀ (type).—Length about 11.5 mm.

Black, of the type of *T. helianthi* ; mandibles reddish in middle ; clypeus shining, finely punctured, a few indistinct large punctures ; region of antennæ with ochreous hair ; third antennal joint dark reddish in front ; hair-markings of thorax and abdomen pale, faintly yellowish, almost greyish ; mesothorax with a narrow band along sides and behind, but not in front ; disc with two parallel broad stripes ; axillar spines small and obscure ; mesopleura with a band across middle, the black region below not enclosed ; tegulæ piceous. Wings strongly dusky. Legs coloured as in *T. cuneatus* and *concinus*. Abdomen essentially as in *concinus*, bands on first and second segments interrupted, band on second segment with an elongated process directed cephalad on each side. Spurs black.

♂.—Face covered with pure silvery-white hair ; mesopleura covered with silvery-white hair ; parallel stripes of mesothorax less developed ; middle femora broadly black above ; first three abdominal bands interrupted, and the fourth with a linear interruption, not quite complete.

Federal District, Mexico, "7 and 8, 10." U.S. Nat. Museum.

The specific name was suggested by the black area on

thorax above, more or less resembling the outline of a medusa or jellyfish. The modified apical area of female abdomen is rather small. This is easily known from *T. helianthi* by the wide interruption of the apical band on first abdominal segment and the wider stripes on mesothorax; these latter are broad to the base (front), not slender and thus clavate as in *T. sublimatus*, Ckll.

Chalepogenus calcaratus (Cresson).

The known distribution is greatly extended by males from Sonsonate, Salvador, Aug. 24 (*F. Knab*), and Paraiso, Panama Canal Zone, Jan. 16 (*A. Busck*).

In the southern part of the range there is more black on the clypeus of the male. The species was described from Mexico.

Chalepogenus globulosus (Friesse).

Friesse described this from a single male from an unknown locality, calling it *Tetrapedia globulosa*. I have before me a male from Taboga I., Panama, July (*A. Busck*), and a female from Paraiso, Panama Canal Zone, May 11 (*A. H. Jennings*). The female closely resembles the male, but differs thus: face broader; clypeus ferruginous; front ferruginous except an obscure median stripe, and a flame-like upward extension (away from orbit) of each lateral mark; hind legs with ferruginous scopa. In both sexes the mesothorax has lateral as well as discal yellow stripes. The male has no brown fringes on the abdominal segments, but it agrees in general so well with Friesse's description that I believe it must be the same.

Exomalopsis globosa (Fabricius).

Females from Mayaguez, Porto Rico, Jan. 9 (*C. W. Hooker*, 68).

This species is readily known from the mainland *E. manni* and *exmeniae* by the dark reddish stigma. The scopa of hind tarsi is very long and loose.

Exomalopsis vincentana, sp. n.

♀.—Length 6.5 mm.

Robust, black, shining; mandibles reddish in middle;

clypeus polished, irregularly punctured, and with a shallow quadrate subapical depression; antennæ dark, the flagellum obscurely reddish beneath, last joint flattened; mesothorax polished, with scattered minute punctures, and some larger ones, the pubescence short and scanty, mainly black, but whitish in front; prothorax, tubercles, and pleura with dull white hair; scutellum with black hair; tegulæ black. Wings dusky, subviolaceous, darker apically and in region of marginal cell; stigma large and reddish, nervures fuscous. Legs black, the small joints of tarsi ferruginous; hind tibial scopa long and black behind, white in front; hind tarsi with hair black behind, white in front, and bright ferruginous on inner side; first two abdominal segments without hair-bands or stripes, first segment at sides thinly clothed with dull white hair; third and fourth segments with thin white bands; apex with black hair, but at sides in subapical region is a long fringe of silvery white hair projecting from beneath.

St. Vincent, West Indies (*H. H. Smith*, 208), U.S. Nat. Museum. Ashmead, reporting on *H. H. Smith's* St. Vincent collections, records only *E. rufitarsis* and *E. pubescens*.

This is not particularly close to either, but is related to the Brazilian *E. nigripes*, Friese, which has the abdomen differently marked and the pleura dark-haired.

Melissodes martinicensis, sp. n.

♂.—Length about 9.5 mm., antennæ about 7.4 mm.

Very close to *M. rufodentata*, Sm., St. Vincent, but somewhat larger, with the subapical hair-bands on abdominal segments 2 to 4 clear white, and the hair of thorax above paler, not so red. The clypeus and base of mandibles are yellow, the labrum nearly white; flagellum ferruginous beneath to base; knees, tibiæ, and tarsi clear ferruginous.

Martinique, West Indies, July 15 (*A. Busck*). U.S. Nat. Museum.

This could be regarded as an insular race of *M. rufodentata*.

Ptilothrix tricolor (Friese).

Carcarana, Argentina (*Bruner*, 57).

The original description by Friese is very inadequate, but Brethes gives an excellent one. *Ptilothrix* has in general the structure of *Diadasia*; but on comparison with the type of that genus (*D. enavata*) it differs markedly in the venation, the second s.m. receiving the first r. n. near middle, and

the third s.m. being much shorter. The mouth-parts are those of *Diadasia*, and *P. tricolor*, like our North American species of *Diadasia*, visits flowers of Cactaceæ. The venational character holds well enough when we compare North American *Diadasia* with typical *Ptilothrix*, but the Brazilian *D. murihirta*, Ckll., is intermediate, having the third s.m. as in *Ptilothrix*. *D. sumichrasti vulpihirta*, Ckll., also has a short submarginal. *Ptilothrix* agrees with the North American genus *Emphor*, to which it is closely related, in lacking a pulvillus on the feet. On this basis, as well as the short submarginal cell, *Diadasia sumichrasti*, Cresson, becomes *Ptilothrix sumichrasti*. *D. murihirta*, on the other hand, has large pulvilli, and remains in *Diadasia*.

Thus the separation of *Diadasia* from *Ptilothrix* may be maintained, though the genera are extremely closely allied.

It remains to consider the status of *Ancyloscelis*, which has been often used for these insects, and of *Melitoma*, which is preferred by Ducke. It is now considered that *Melitoma* is the prior name for *Entechnia*, Patton, which I regard as a very distinct genus. *Ancyloscelis*, Latr., 1825, included no named species, and *Ancyloscelis*, Spinola, 1851, is a synonym of *Tetrapedia*. In 1836, however, Haliday published *Ancylosceles* (not *Ancyloscelis*) for a species *ursinus*, taken by Lieut. Graves at S. Paulo, Brazil. The specimen is probably in the W. W. Saunders collection at Oxford. It was a male, $4\frac{1}{2}$ lines long, with the region of the mouth, the tegulæ, and tarsi yellowish ferruginous. The description might serve for the recognition of the species, but the generic characters are not mentioned. So far as I know the insect has not been collected since, and at present we can only say that it is probably not a *Ptilothrix* or *Diadasia*. In *P. tricolor* (Fr.) there is long hair on the apical half of second joint of maxillary palpus, and all along the side of the third, while the fourth has shorter hair at side. The joints of the palpus measure in microns: (1) 320, (2) 480, (3) 512, (4) 352, (5) 224, (6) 176. The paraglossæ fall about 480 microns short of end of first joint of labial palpi. The hind spur is curved at end.

Diadasia australis knabiana, subsp. n.

♀.—Labrum, mandibles, and broad apical margin of clypeus bright chestnut-red; legs red, the femora dusky; apical bands on abdominal segments 2-4 very well defined.

Tehuantepec, Oaxaca, June 30 (F. Knab). U.S. Nat. Museum.